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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,696	04/17/2001	Tsuyoshi Okada	50352-019	2515
20277	7590	04/05/2005	EXAMINER	
MCDERMOTT WILL & EMERY LLP			GRIFFIN, WALTER DEAN	
600 13TH STREET, N.W.			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20005-3096			1764	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/807,696

Applicant(s)

OKADA ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/18/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on February 18, 2005 has been entered.

### ***Claim Objections***

Claim 15 is objected to because of the following informalities: In line 6 of claim 15, the reference to "said third hydrotreating step" appears to be incorrect. It should apparently refer to a second hydrotreating step. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 8, 9, 13, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavon (US 2,914,457).

The Beavon reference discloses a petroleum refining process. The process comprises subjecting crude oil to an atmospheric distillation step to separate the crude into fractions including an atmospheric residue and a lighter oil fraction. This lighter oil fraction may then be subjected to a hydrotreating step in which the lighter oil fraction and hydrogen contact a hydrotreating catalyst to remove impurities from the fraction. The atmospheric residue is further separated by vacuum distillation/thermal cracking into a lighter fraction and a heavy fraction. The lighter fraction is then hydrotreated by contacting the lighter fraction and hydrogen with a catalyst. The heavy oil recovered in the vacuum distillation step is then further separated by solvent deasphalting. The light fraction recovered from the solvent deasphalting step is then

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hydrotreated. The hydrotreating steps of the process are conducted as a common step. See column 1, line 63 through column 5, line 46.

The Beavon reference does not disclose obtaining a gas turbine fuel oil that has the claimed characteristics. The reference also does not disclose separating the fuel oil into fractions as in claim 8 and does not disclose the claimed use for fractions as in claim 9.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have produced an oil having the claimed characteristics and yield because the converted hydrocarbons consist of a wide boiling range of materials. The disclosed separations of Beavon and any additional separations such as those in claim 8 would necessarily produce products of various characteristics and it is within the level of ordinary skill to recover any fraction that is suitable for the desired purpose including a fuel oil for a boiler. Additionally, since the process steps of Beavon are similar to those claimed, the products of Beavon would necessarily be similar to those claimed.

Claims 5, 10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavon (US 2,914,457) as applied to claims 1 and 13 above, and further in view of Kwant et al. (US 4,400,264).

As discussed above, the Beavon reference does not disclose hydrotreating the heavy fraction obtained in the vacuum distillation step.

The Kwant reference discloses the hydrotreatment of a heavy fraction obtained from thermal cracking zone. This hydrotreatment occurs before a deasphalting step. See column 2, lines 11-61 and Figure 1.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Beavon by including the hydrotreatment of the heavy fraction obtained from the vacuum distillation/thermal cracking step as suggested by Kwant because the quantity and quality of products will be improved.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beavon (US 2,914,457) as applied to claim 1 above, and further in view of Yoshinaga et al. (US 4,348,288).

As discussed above, the Beavon reference does not disclose the desalting step.

The Yoshinaga reference discloses the need for desalting oils. See the entire document.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Beavon by including a desalting step as suggested by Yoshinaga because corrosion and erosion problems due the presence of impurities in the oil will be eliminated.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beavon (US 2,914,457) as applied to claim 1 above, and further in view of Liu (US 5,958,365).

As discussed above, the Beavon reference does not disclose producing hydrogen by oxidizing the feed oil.

The Liu reference discloses the production of hydrogen from a heavy oil and then using the hydrogen in hydrotreating zones. See column 1, line 60 through column 2, line 13.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Beavon by producing hydrogen as suggested by Liu because a cheap source of hydrogen will be provided thereby improving the economics of the process.

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Claims 6, 7, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwin et al. (US 2,925,374) in view of Kwant et al. (US 4,400,264).

The Gwin reference discloses a process for treating crude oil. The process comprises fractionating a crude oil into a heavy residue fraction and light fractions in an atmospheric distillation zone. A light fraction is then hydrotreated by contacting the fraction and hydrogen with a catalyst. The residue fraction is further separated by a solvent deasphalting process. See column 2, lines 29-41; column 3, lines 46-56 and 64-69; and column 4, lines 17-29.

The Gwin reference does not disclose the characteristics of the fuel oil and does not disclose a second hydrotreating step in which the residue fraction is hydrotreated.

The Kwant reference discloses the hydrotreatment of a heavy fraction prior to a deasphalting zone. See column 2, lines 49-52.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Beavon by including a hydrotreatment of the residue fraction prior to the deasphalting step as suggested by Kwant because the quantity and quality of products will be improved.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have produced an oil having the claimed characteristics and yield because the converted hydrocarbons of Gwin consist of a wide boiling range of materials. The process of Gwin would necessarily produce products of various characteristics and it is within the level of ordinary skill to recover any fraction that is suitable for the desired purpose including a fuel oil for a turbine. Additionally, since the process steps of Gwin are similar to those claimed, the products of Gwin would necessarily be similar to those claimed.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
March 31, 2005